

Research

Although there is much known about obesity, due to the complexity of the issue, numerous unanswered questions remain. Research efforts looking at the risk factors, health consequences, and economic impact of obesity will influence and shape how best to address all facets of

"The challenges of today's obesity epidemic are daunting, yet the discoveries emanating from previous research investments offer unprecedented opportunities for new scientific research efforts to help meet these challenges."

(Strategic Plan for NIH Obesity Research, 2004)

obesity and associated chronic diseases.

In the past few years, obesity-related research has been made a priority at the national level. In April 2003, the NIH Obesity Research Task Force was established to develop a strategic plan for obesity research. *The Strategic Plan for NIH Obesity Research (2004)* includes research themes around preventing and treating obesity through lifestyle modification and through medical approaches, and research addressing the link between obesity and its associated health conditions. The strategic plan also encourages research examining cross-cutting

topics including health disparities, technology, fostering of multidisciplinary and interdisciplinary research teams, investigator training, translational research, and education/outreach efforts.

The *Community Guide to Preventive Services*, developed by the Task Force on Community Preventive Services, summarizes what is known about the effectiveness and feasibility of interventions to promote health and prevent disease. The Task Force uses a variety of both qualitative and quantitative factors to assess the strength of evidence for population-based interventions.

The *Community Guide* indicates several interventions as having insufficient evidence, which simply indicates a lack of quality data supporting the various interventions and approaches. Many of these interventions have shown promise with designated populations, but an abundance of high quality evidence does not exist to recommend the intervention for the general population. Consequently, more well-designed, high quality research studies are needed to determine the effectiveness of these promising practices.

Recommendations for interventions in the Community Guide to Preventive Services are made based on the strength of evidence of effectiveness and assessed as:

-  Recommended based on strong evidence
-  Recommended based on sufficient evidence
-  Recommended based on expert opinion
-  Insufficient evidence to determine effectiveness
-  Recommended against



Research is also needed to evaluate the effectiveness of obesity-related interventions in various populations. Some potential research questions include:

- How do policy and environmental strategies impact physical activity and nutrition behaviors?
- How effective is a media campaign as a stand-alone intervention?
- How to best address factors leading to obesity in populations impacted by health disparities?
- What are the best methods to understand the psychological and biological factors contributing to weight gain?

Research design is equally important. One research method that is becoming more recognized in both public health institutions and funding agencies is Community Based Participatory Research (CBPR). CBPR is a collaborative process of research involving researchers and community representatives. It engages community members, employs local knowledge in the understanding of health problems and the design of interventions, and invests community members in the processes and products of research.

CBPR is especially valuable when applied to research aimed at improving the health of disadvantaged (minority, low-income, rural, or other) populations. Conventional research in these communities has faced many barriers and offered limited opportunities for improved health outcomes. With CBPR, community members are invested in the dissemination and use of research findings and ultimately in the reduction of health disparities.



The state of South Carolina is fortunate to have several renowned researchers and supporting academic institutions. This asset, combined with the need for an expanding pool of evidence-based practices, research plays a key role in this strategic framework.



CLEMSON:

Clemson University and Clemson Extension Services are actively engaged in numerous activities relating to healthy nutrition and physical activity for different age groups. The Expanded Food and Nutrition Education Program (EFNEP) is a nutrition education program for children, youth, and families with limited resources that has been provided for more than 35 years. Promotion of food safety and health issues to limited income families is also being provided through the Clemson Extension Food Safety and Nutrition Agents. Clemson and Voorhees College have a joint research project focusing on outreach activities targeting African-American school aged children and adults. The EXPORT project has three main studies focusing on the identification and comparison of lifestyle choices of diet and physical activity as well as socio-cultural factors that influence lifestyle choices in rural and underserved minority populations. The Institute for Family and Neighborhood Life focuses on developing/supporting families and communities including establishing community food banks.



MUSC:

MUSC has several programs addressing overweight and obesity. The Weight Management Center approaches the complexity of obesity with a multi-disciplinary team of psychologists, physicians, dietitians, and exercise physiologists. The Weight Management Center also participates in research regarding the use of medications for weight loss. MUSC Children's Hospital has developed the Heart Health program, a comprehensive, family-focused program specifically for children and adolescents ages 2-21 with a history of chronic abnormal weight gain and cardiovascular risk factors. MUSC publishes papers and conducts presentations incorporating clinical data, including data from the MUSC Bariatric Surgery Program.



USC:

As the only School of Public Health in SC, the USC Arnold School of Public Health encompasses many programs involved in obesity-related research. For example, the USC PRC is one of 33 university-based centers that is part of the Prevention Research Center Programs of the CDC. The PRC in South Carolina conducts applied research in chronic disease prevention and control, with a focus in the area of physical activity. Translating research into practice is integral to PRC to ensure that research findings are put into practice in communities throughout the state. In addition, the Center for Research in Nutrition and Health Disparities, also in the Arnold School of Public Health is involved with researching the combinations of dietary intake, genetic and cultural influences on obesity, and obesity-related conditions – especially in the minority populations most burdened with health disparities and the health problems that result from obesity. These two centers are currently involved in developing grant proposals for research projects related to the initiatives addressed in this strategic framework.



In July 2003, South Carolina's three research universities: MUSC, Clemson University, and USC joined with the South Carolina Research Authority to develop the South Carolina Nutrition Research Consortium. The Consortium was originally chartered to leverage resources of the three research universities, along with other state colleges and universities, government, and industry for innovative research and outreach programs that will promote good nutrition and disease prevention for all South Carolinians.

The health consequences, along with the economic costs of obesity, will be additional areas for investigation through research projects in the state. To meet the challenges obesity presents, translating research into practice and disseminating practical guidelines to individuals, families, communities, and organizations will be critical to the prevention and control of obesity in South Carolina. Research findings will also promote the implementation of evidence-based obesity-related activities to change behavior and policy in the state.



Examples of Activities

Obtain Obesity Related Research Grants

Leveraging resources through collaborative partnerships will help with increasing opportunities for obtaining research grants for South Carolina.

Establish a Clearinghouse for Partners

A clearinghouse will be established and maintained to provide updates on obesity research opportunities.

Provide Technical Assistance to Partners

Assistance on topics such as grant writing and CBPR will be provided to community partners and grassroots organizations in the state.

Form SCCOPE Research and Grant Writing Subcommittee

A research and grant writing subcommittee will be formed within SCCOPE to assist with increasing research efforts in the state.

Goal 6.

Increase the number of research projects in South Carolina related to obesity prevention and control.



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Objective 1: By December 31, 2010, collaborate with the South Carolina Nutrition Research Consortium (SCNRC) on at least 3 research efforts dealing with obesity in the state.

Strategies

1. At least one member of the South Carolina Nutrition Research Consortium will serve as an Advisory Council member for SCCOPE.
2. DOPC will correspond at least monthly with the Nutrition Research Consortium contact to maintain communication on potential research opportunities.
3. SCCOPE will use research results to implement proven effective state-wide obesity related activities.

Objective 2: By December 31, 2009, DOPC will have provided ongoing updates to partners on potential obesity related research opportunities for the state.

Strategies

1. Establish and maintain a clearinghouse for obesity research opportunities.
2. Provide technical assistance on grant writing and community based participatory research to community partners and grass roots organizations.

Objective 3. By July 31, 2010, SCCOPE through its partners, will have obtained at least 5 obesity related research grants for the state.

Strategies

1. Within SCCOPE, form a research and grant writing subcommittee to lead the SCCOPE research efforts.
2. DOPC will identify individuals within DHEC who are interested and skilled in research activities.

